

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant(s): Ewald Bergler

Group Art Unit: 2611

Serial No.: 10/517,745

Confirmation No. 6073

Filed: December 9, 2004

Examiner: Malek, Leila

For: DATA CARRIER COMPRISING MEANS FOR INFLUENCING THE
SLOPE COURSE OF THE SIGNAL EDGES IN AN AMPLITUDE-
MODULATED SIGNAL

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL

Sir/Madam:

This brief is in furtherance of Applicant's Notice of Appeal filed on December 16, 2009, appealing the decision of the Examiner dated September 16, 2009 rejecting claims 1-11.

I. Real Party in Interest

The real party in interest in this appeal is NXP B.V., High Tech Campus 60, 5656 AG Eindhoven, The Netherlands.

II. Related Appeals and Interferences

There are currently no related appeals or interference proceedings in progress that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the present Appeal.

III. Status of Claims

Claims 1-9 were originally filed on December 9, 2004. In a preliminary amendment filed on December 9, 2004, claims 1-9 were amended. In response to the Office Action of July 25, 2007, claims 1, 5 and 9 were amended, and new claims 10 and 11 were added. In response to the Final Office Action of January 9, 2008, claims 1 and 5 were further amended. In response to the Office Action of June 11, 2008, claims 10 and 11 were further amended. In response to the Final Office Action of December 5, 2008, a Notice of Appeal was filed on April 2, 2009 and an Appeal Brief was filed on June 2, 2009. Claims 1-11 stand rejected in a non-final Office Action after reopening of prosecution and form the subject matter of the present appeal.

Claims 1-11 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Applicant's admitted prior art (hereinafter "AAPA") in view of U.S. Patent Number 4,646,327 (hereinafter "Kojima et al."), and further in view of U.S. Patent Application Publication Number 2002/0126857 A1 ("Hile et al.").

This Appeal is made with regard to pending claims 1-11.

IV. Status of Amendments

No amendments were filed subsequent to final rejection.

V. Summary of Claimed Subject Matter

The claimed invention includes a data carrier (1) designed to modulate a carrier signal (CS) using a data signal (DS) to generate an amplitude-modulated signal (S) (See lines 1-10 on page 1 of the Specification) and a circuit (3) for a data carrier (1) to modulate a carrier signal (CS) using a data signal (DS) to generate an amplitude-modulated signal (S) (See lines 11-19 on page 1 of the Specification).

According to an embodiment, as recited in the independent claim 1, a data carrier (1), which is designed to modulate a carrier signal (CS) that can be received in a contactless manner (See lines 11-13 on page 4 of the Specification), and which is equipped with transmission means (2), designed to transmit the carrier signal (See lines 14-16 on page 4 of the Specification), and which is equipped with an electrical circuit (3), which circuit is equipped with at least one terminal (4, 5), to which terminal the transmission means is connected and via which terminal the carrier signal can be fed to the circuit (See lines 19-22 on page 4 of the Specification), and which circuit is equipped with a data signal source (9) designed to generate and emit a data signal (DS) having only two voltage values (See lines 3-13 on page 5 of the Specification), and which circuit is equipped with modulation means (11) designed to receive the data signal and, using the data signal, to modulate the carrier signal occurring at the at least one terminal, and to generate an amplitude-modulated signal (S) having only two amplitudes (See lines 14-33 on page 5 of the Specification), in which amplitude-modulated signal edges (SL) occur, characterized in that signal-edge influencing means (12) provided, which is designed to influence the slope characteristic of the signal edges in the amplitude-modulated signal (See lines 12-14 on page 6 of the Specification).

According to an embodiment, as recited in the independent claim 5, a

circuit (3) for a data carrier (1) which is designed to modulate a carrier signal (CS) that can be received in a contactless manner (See lines 11-13 on page 4 of the Specification), and which is equipped with transmission means (2) to transmit the carrier signal (See lines 14-16 on page 4 of the Specification), which circuit is equipped with at least one terminal (4, 5), to which terminal the transmission means can be connected, and via which terminal the carrier signal can be fed to the circuit, and which circuit is equipped with a data signal source (9) designed to generate and emit a data signal (DS) having only two voltage values (See lines 3-13 on page 5 of the Specification), and which circuit is equipped with modulation means (11) designed to receive the data signal and, using the data signal, to modulate the carrier signal occurring at the at least one terminal, and to generate an amplitude-modulated signal (S) having only two amplitudes (See lines 14-33 on page 5 of the Specification), in which amplitude-modulated signal edges (SL) occur, characterized in that signal-edge influencing means (12) is provided, which is designed to influence the slope characteristic of the signal edges in the amplitude-modulated signal (See lines 12-14 on page 6 of the Specification).

VI. Grounds of Rejection to be Reviewed on Appeal

Whether claims 1-11 are unpatentable under 35 U.S.C. §103(a) over AAPA in view of Kojima et al., and further in view of Hile et al.

VII. Argument

In the Office Action of September 16, 2009, the Examiner has rejected claims 1-11 under 35 U.S.C. §103(a) over AAPA in view of Kojima et al., and further in view of Hile et al. However, the Examiner has failed to establish a *prima facie* case of obviousness for the independent claims 1 and 5, as explained below. Thus, the independent claims 1 and 5 and the dependent claims 2-4 and 6-11 are not unpatentable under 35 U.S.C. §103(a) over AAPA in view of Kojima et al., and further in view of Hile et al.

A. Rejection of Independent Claims 1 and 5 Under 35 U.S.C. §103(a)

The independent claims 1 and 5 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over AAPA in view of Kojima et al., and in further view of Hile et al. However, the Examiner has failed to establish a *prima facie* case of obviousness for the independent claims 1 and 5. Thus, the independent claims 1 and 5 are not obvious over AAPA in view of Kojima et al., and in further view of Hile et al.

In order to establish a *prima facie* rejection of a claim under 35 U.S.C. 103, the Office Action must present a clear articulation of the reason why the claimed invention would have been obvious. MPEP 2142 (citing *KSR International Co. v. Teleflex Inc.*, 550 U.S. (2007)). The analysis must be made explicit. *Id.* Additionally, rejections based on obviousness cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.* However, in the latest Office Action of December 16, 2009, the Examiner has failed to present an articulated reasoning with a rational underpinning to support the legal conclusion of obviousness for the independent claim 1.

With respect to the independent claims 1 and 5, the Examiner on page 4 of the latest Office Action asserts that “[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to modify Applicant’s background of invention as taught by Kojima and add a low-pass filter between the data source and amplitude modulator to correct the distortions in the communication system (see column 1, lines 1-18).” Thus, the reasoning provided by the Examiner to support the legal conclusion of obviousness for the independent claim 1 with respect to modifying AAPA with teachings of Kojima et al. is “to correct the distortions in the communication system” by citing column 1, lines 1-18, of Kojima et al. However, this reasoning provided by the Examiner is without any rational underpinning, as explained below.

Column 1, lines 1-18, of Kojima et al. describes the field of the invention disclosed in Kojima et al. and the related prior art. In particular, column 1, lines 6-10, of Kojima et al. states that the invention disclosed in Kojima et al. “is directed to a waveform shaping apparatus having improved precision for correcting distortion” (emphasis added). Thus, the distortion correction described in Kojima et al. is with respect a waveform shaping apparatus, i.e., the waveform shaping apparatus 11 shown in Figs. 1 and 2, not the low-pass filter 13, which is also shown in Fig. 2.

Since the distorting correction described in column 1, lines 1-18, in Kojima et al. is directed to the waveform shaping apparatus 11, not the low-pass filter 13, the reasoning set forth by the Examiner is not applicable to the low-pass filter 13. Consequently, the Examiner has failed to present an articulated reasoning with a rational underpinning to support the legal conclusion with respect to the assertion that “[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to modify Applicant’s background of invention as taught by Kojima and add a low-pass filter between the data source and amplitude modulator” to derive the claimed invention as recited in the independent claims 1 and 5. Thus, the Examiner has failed to establish a *prima facie* case of obviousness for the independent claims 1 and 5.

In addition, the Examiner on page 5 of the latest Office Action asserts that “[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to modify Applicant’s background of invention and Kojima as suggested by Hile to perform low-pass filtering on the source signal to improve the quality of the signal (see Hile paragraphs 0005 and 0026) and also avoid sending a signal with sharp edges to the modulator and therefore enhance the performance of the communication system.” Thus, the reasoning provided by the Examiner to support the legal conclusion of obviousness for the independent claim 1 with respect to applying the teachings of Hile et al. to the teachings of AAPA and Kojima et al. is “to improve the quality of the signal,” as taught by

Hile et al. However, there is no rational basis to apply the teachings of Hile et al. to the teachings of AAPA and/or Kojima et al., as explained below.

Hile et al. describes a sound generator circuit 300, which includes a low-pass filter that includes a resistor 365 and a capacitor 370. Hile et al. does describe that the sound generator circuit improves “the quality of the signal,” as asserted by the Examiner. However, the signal of interest in Hile et al. is sound, not digital data signal, as is the case in AAPA and Kojima et al. In particular, Hile et al. involves improving the sound quality as produced by a buzzer 310 of the sound generator circuit 300, not the quality of data signals for digital communication. Thus, the teachings of Hile et al. with respect to sound quality are not applicable to AAPA and/or Kojima. Therefore, there is no rational basis to apply the teachings of Hile et al. to the teachings of AAPA and/or Kojima et al. Consequently, the Examiner has failed to present an articulated reasoning with a rational underpinning to support the legal conclusion with respect to the assertion that “[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to modify Applicant’s background of invention and Kojima as suggested by Hile to perform low-pass filtering on the source signal” to derive the claimed invention as recited in the independent claims 1 and 5, which further supports the conclusion that the Examiner has failed to establish a *prima facie* case of obviousness for the independent claims 1 and 5.

B. Rejection of Dependent Claims 2-4 and 6-11 Under 35 U.S.C. §103(a)

Each of the dependent claims 2-4 and 6-11 depends on one of the independent claims 1 and 5. As such, these dependent claims include all the limitations of their respective base claims. Thus, these dependent claims are patentable for at least the same reasons as their respective base claims. Furthermore, the dependent claims 10 and 11 are allowable for the following additional reasons.

Claims 10 and 11 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over AAPA in view of Kojima et al., and further in view of Hile et

al. Claims 10 and 11 both recite the limitations of “*characterized in that the modulation means includes a transistor with a control terminal, and the signal-edge influencing means includes a resistor connected directly to the control terminal of the transistor of the modulation means and a capacitor connected directly to the control terminal of the transistor of the modulation means and ground*” (emphasis added), which are not disclosed in AAPA, Kojima et al., and Hile et al.

The Examiner on pages 5 and 6 admits that Hile et al. discloses that both the resistor 365 and the capacitor 370 of the low-pass filter “are directly connected to their next circuit element (here resistor 375).” The Examiner then asserts that “[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to directly connect the control terminal of transistor disclosed by Applicant’s admitted prior art to the capacitor and resistor disclosed by Hile, while incorporating the teaching of Hile in the circuit disclosed in the Applicant’s background of invention to connect the components of the circuit properly and to improve the quality of the signal (see Hile paragraphs 0005-0006 and 0026).”

Since Hile et al. teaches that the resistor 365 and the capacitor 370 are directly connected to the resistor 375, not the transistor 340, the Examiner must provide some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness as to why it would have been obvious to directly connect the resistor 365 and the capacitor 370 to the transistor described in AAPA in order to establish *prima facie* case of obviousness for claims 10 and 11. The Examiner’s statement of “to connect the components of the circuit properly” is conclusory, and is not a reasoning with a rational basis to show why the resistor 365 and the capacitor 370 described in Hile et al. should be connected directly to the transistor described in AAPA, when Hile et al. teaches that the resistor 365 and the capacitor 370 are directly connected to the current limiting resistor 375, not to the transistor 340. In addition, as explained above, Hile et al. involves improving the sound quality as produced by the buzzer 310 of the sound generator circuit 300, not the quality of data signals for digital communication.

Consequently, there is no rational basis to apply the teachings of Hile et al. to the teachings of AAPA and/or Kojima et al. Thus, the Examiner has failed to establish a *prima facie* case of obviousness for claims 10 and 11.

SUMMARY

The Examiner has failed to establish a *prima facie* case of obviousness for the independent claims 1 and 5 using AAPA, Kojima et al. and Hile et al. because the Examiner has failed to present an articulated reasoning with a rational underpinning to support the legal conclusion of obviousness with respect to combining the teachings of AAPA, Kojima et al. and Hile et al. in the manner suggested by the Examiner. The Examiner has also failed to establish a *prima facie* case of obviousness for the dependent claims 2-4 and 6-11 since these dependent claims include all the limitations of their respective base claims 1 and 5.

For all the foregoing reasons, it is earnestly and respectfully requested that the Board of Patent Appeals and Interferences reverse the rejections of the Examiner regarding claims 1-11, so that this case may be allowed and pass to issue in a timely manner.

Respectfully submitted,
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VIII. Claims Appendix

1 1. A data carrier, which is designed to modulate a carrier signal that can be
2 received in a contactless manner, and which is equipped with transmission means,
3 designed to transmit the carrier signal, and which is equipped with an electrical
4 circuit, which circuit is equipped with at least one terminal, to which terminal the
5 transmission means is connected and via which terminal the carrier signal can be
6 fed to the circuit, and which circuit is equipped with a data signal source designed
7 to generate and emit a data signal having only two voltage values, and which
8 circuit is equipped with modulation means designed to receive the data signal and,
9 using the data signal, to modulate the carrier signal occurring at the at least one
10 terminal, and to generate an amplitude-modulated signal having only two
11 amplitudes, in which amplitude-modulated signal edges occur, characterized in
12 that signal-edge influencing means provided, which is designed to influence the
13 slope characteristic of the signal edges in the amplitude-modulated signal.

1 2. A data carrier as claimed in claim 1, characterized in that the signal-edge
2 influencing means is realized by filtration means.

1 3. A data carrier as claimed in claim 2, characterized in that the filtration
2 means is provided between the data signal source and the modulation means and
3 designed to filter the data signal that can be emitted from the data signal source to
4 the modulation means.

1 4. A data carrier as claimed in claim 2, characterized in that the filtration
2 means is formed by a low-pass filter.

1 5. A circuit for a data carrier which is designed to modulate a carrier signal
2 that can be received in a contactless manner, and which is equipped with
3 transmission means to transmit the carrier signal, which circuit is equipped with at
4 least one terminal, to which terminal the transmission means can be connected,
5 and via which terminal the carrier signal can be fed to the circuit, and which
6 circuit is equipped with a data signal source designed to generate and emit a data
7 signal having only two voltage values, and which circuit is equipped with
8 modulation means designed to receive the data signal and, using the data signal, to
9 modulate the carrier signal occurring at the at least one terminal, and to generate
10 an amplitude-modulated signal having only two amplitudes, in which amplitude-
11 modulated signal edges occur, characterized in that signal-edge influencing means
12 is provided, which is designed to influence the slope characteristic of the signal
13 edges in the amplitude-modulated signal.

1 6. A circuit as claimed in claim 5, characterized in that the signal-edge
2 influencing means is realized by filtration means.

1 7. A circuit as claimed in claim 6, characterized in that the filtration means is
2 provided between the data signal source and the modulation means and designed
3 to filter the data signal that can be emitted from the data signal source to the
4 modulation means.

1 8. A circuit as claimed in claim 6, characterized in that the filtration means is
2 formed by a low-pass filter.

1 9. A circuit as claimed in claim 5, characterized in that the circuit is realized
2 as an integrated circuit.

1 10. A circuit as claimed in claim 5, characterized in that the modulation means
2 includes a transistor with a control terminal, and the signal-edge influencing
3 means includes a resistor connected directly to the control terminal of the
4 transistor of the modulation means and a capacitor connected directly to the
5 control terminal of the transistor of the modulation means and ground.

1 11. A data carrier as claimed in claim 1, characterized in that the modulation
2 means includes a transistor with a control terminal, and the signal-edge
3 influencing means includes a resistor connected directly to the control terminal of
4 the transistor of the modulation means and a capacitor connected directly to the
5 control terminal of the transistor of the modulation means and ground.

IX. Evidence Appendix

NONE

X. Related Proceedings Appendix

NONE